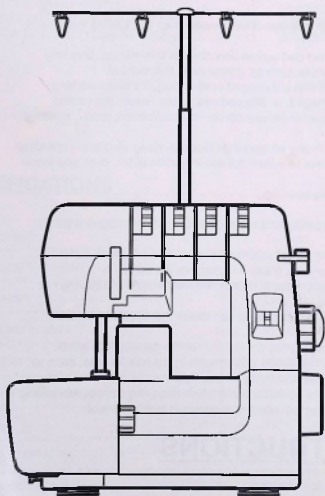


baby lock

MODEL BL402 INSTRUCTION BOOKLET



Handwritten signature or mark.

OWNER'S MANUAL

This sewing machine is intended for household use.

IMPORTANT SAFETY INSTRUCTIONS

When using a sewing machine, basic safety precautions should always be followed, including the following.

Read all instructions before using.

DANGER - To reduce the risk of electric shock:

1. Never leave unattended when plugged in. Always unplug this machine from the electric outlet immediately after using and before cleaning.
2. Always unplug before relamping. Replace bulb with same type rated 10 Watts.

WARNING - To reduce the risk of burns, fire, electric shock, or injury to persons:

1. Do not allow to be used as a toy. Close attention is necessary when this sewing machine is used by or near children.
2. Use this sewing machine only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as contained in this manual.
3. Never operate this sewing machine if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return the sewing machine to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the sewing machine with any air openings blocked. Keep ventilation openings of the sewing machine and foot controller free from the accumulation of lint, dust, and loose cloth.
5. Never drop or insert any object into any opening.
6. Do not use outdoors.
7. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
8. To disconnect, turn the power switch to the off position, then remove plug from outlet.
9. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
10. Keep fingers away from all moving parts. Special care is required around the sewing machine needle and knives.
11. Always use the proper needle plate. The wrong plate can cause the needle to break.
12. Do not use bent needles.
13. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
14. Switch the sewing machine off when making any adjustments in the needle area, such as threading needle or loopers, changing needle, knife, or needle plate.
15. Always unplug sewing machine from the electrical outlet when removing covers, lubricating, or when making any other user servicing adjustments mentioned in this manual.

SAVE THESE INSTRUCTIONS

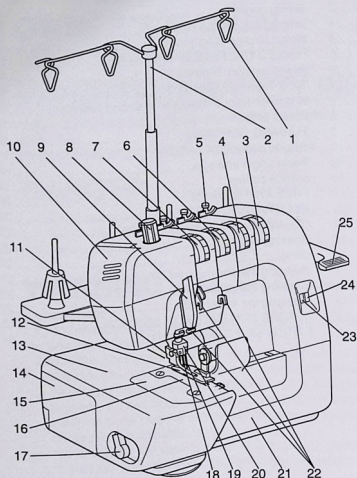
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SPECIFICATIONS

Stitch length	1-4 mm
Differential feed ratio	0.5 - 2.0
Seam width	Left needle: 5.7-7.2 mm, Right needle: 3.5-5.0 mm
Needle bar stroke	27 mm
Presser foot	Hinged, Snap on type
Presser foot lift	5 mm
Needle	Type 15 x 1, 705, 130 size 11, 14
Number of threads	4, 3, 2
Dimensions	Width: 300 mm x Depth: 280 mm x Height: 320 mm
Net weight	8.3kg

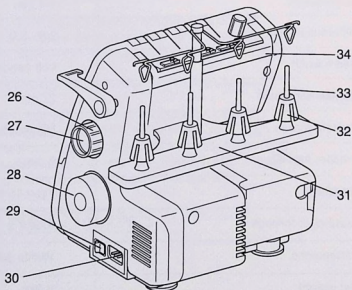
GETTING TO KNOW YOUR SERGER



1. Thread Guide Hanger
2. Extension Bar
3. Lower Loop Thread Tension Dial (Blue)
4. Upper Loop Thread Tension Dial (Green)
5. Thread Guide
6. Right Needle Thread Tension Dial (Yellow)
7. Left Needle Thread Tension Dial (Red)
8. Pressure Regulator
9. Thread Take-up Lever
10. Light Cover
11. Presser Foot Holder
12. Presser Foot
13. Extension Table
14. Accessory Box
15. Free Arm
16. Throat Plate
17. Extension Table Lock/Release Lever
18. Left Needle
19. Right Needle
20. Needle Clamp
21. Front Cover
22. Thread Guides
23. Differential Feed Indicator
24. Stitch Length Indicator
25. Presser Foot Lifter

FRONT VIEW

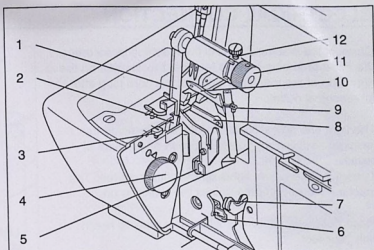
26. Stitch Length Regulator Dial (outside dial)
27. Differential Feed Regulator Dial (inside dial)
28. Hand Wheel
29. Light & Power Switch
30. Terminal Box
31. Spool Stand
32. Spool Supporter
33. Spool Pin
34. Handle



REAR VIEW

INSIDE OF FRONT COVER

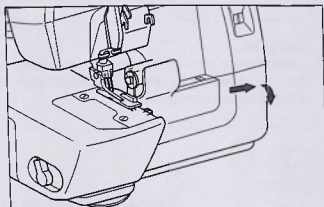
1. Upper Knife
2. Lower Knife
3. Rolled Hem Lever
4. Seam Width Knob
5. Thread Guide
6. Thread Guide
7. Thread Guide
8. Lower Looper
9. Thread Guide
10. Upper Looper
11. Upper Knife Knob
12. Upper Knife Lock Screw



ACCESS TO THREAD GUIDES AND FREE ARM

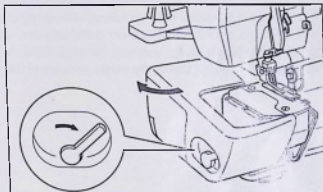
Opening the Front Cover

1. Slide front cover to the right as far as possible; pull cover down towards you.
2. To close, lift cover up and it will snap into place.
3. Be sure that the cover is properly closed before starting to sew.



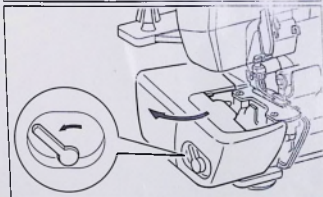
Opening the Extension Table

1. Turn lever located on left side of Extension Table towards front of machine.
2. Pull Extension Table out to open.
3. To close push shut and turn lever in opposite direction. This locks the Extension Table to Free Arm Cover.



Removing the Free Arm Cover

Swing Extension Table out with lever in locked position and Free Arm Cover will stay attached to the Extension Table.



ELECTRICAL CONNECTION

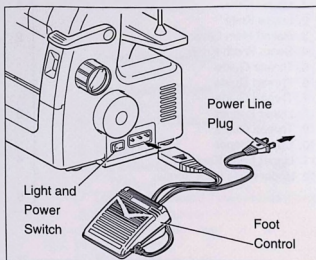
Connect the electrical cord to the machine by inserting the three-hole plug into the terminal box located on the right side of the machine. Connect the cord plug into an electrical outlet.

The light and power switch is located alongside the terminal box. To turn power on, push on left side of switch.

Turning on the power lights up the stitching area. The machine will not operate unless the switch is on.

Place Foot control on floor where it is easy to reach with your foot.

To make machine go faster, press down on foot control; to slow down let up slightly.



CAUTION:

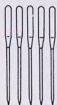
Disconnect the electrical cord from the wall outlet when machine is not in use or when it is being cleaned. Turn the power switch to the "OFF" position before changing needles, and before connecting the cord. This will help prevent accidents.

POLARIZED PLUG INFORMATION

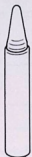
This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact an electrician to replace the obsolete outlet. Do not defeat the safety purpose of the polarized plug.

ACCESSORIES

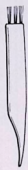
Accessories are located into the Accessory Box.



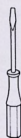
Needles
15 x 1
(#11 x 2)
(#14 x 3)



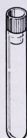
Oiler



Brush



Screw
Driver



Subsidiary
Looper Case



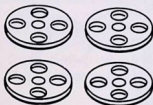
Extra Lower Knife



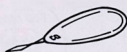
Subsidiary Looper
(for 2-thread sewing)



Thread Nets



Thread Caps



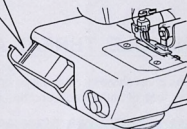
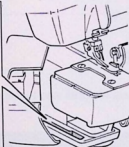
Needle Threader



Screw and Washer
for cabinet



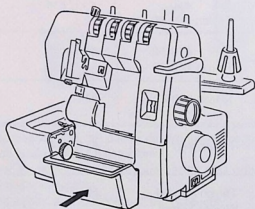
Tweezers
(This is located under
the extension table.)



Accessory Box

Dust Box

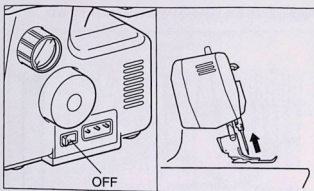
Place the Dust Box to front of the machine as illustrated below.



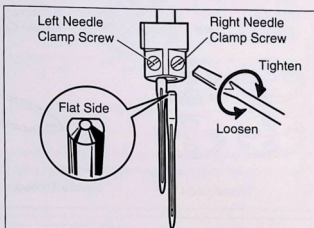
INSERTING THE NEEDLE

Select the proper type and size needle for fabric used.
(See below "NEEDLE, THREAD AND FABRIC CHART".)

1. Turn electrical power off.
2. Turn hand wheel towards you until the needle comes to its highest point.



3. Use the screw driver to loosen the Left and/or Right needle clamp screw, and remove the needle.
4. Place flat side of needle toward back of the machine, and insert in needle clamp as far as it will go.
5. Retighten the screw.



NEEDLE, THREAD AND FABRIC CHART

The chart shows size and type of thread, and needle size for various weights and types of fabrics. Size means the fineness of both needle and thread.

FABRICS		THREADS		NEEDLE SIZES
LIGHTWEIGHT: organdy, voile, taffeta, lawn, crepe.		Cotton #100 Spun #80-100	Silk #100 Tetron #90	#11
MEDIUM WEIGHT: gingham, satin, seersucker, linen, velveteen, gabardine, broadcloth.		Cotton #60-80 Spun #60-90	Silk #50 Tetron #60-80	#11, #14
HEAVY WEIGHT: denim, tweed, corduroy, pile fabrics.		Cotton #40-60 Spun #60-90	Silk #40-50 Tetron #50-60	#14
KNIT	tricot	Spun #60-80 Woolly Nylon	Tetron #60-80	#11
	jersey	Spun #60-80 Woolly Nylon	Tetron #60	#11, #14
	wool	Spun #60-80 Woolly nylon	Tetron #50-60 Woolly Tetron	#14

THREADING THE MACHINE

When threading, be sure to follow the directions given below. The machine must be threaded in the proper sequence in order to sew. An illustration for correct threading is inside the front cover of the machine.

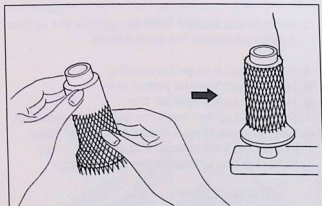
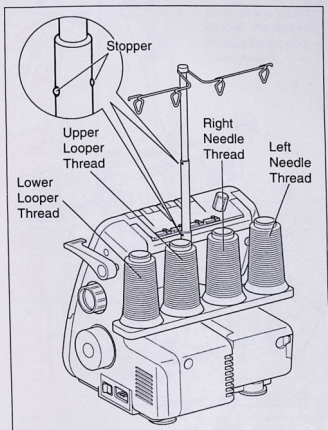
The thread guides are identified with color markings corresponding to the thread to which they belong. Always thread the upper and lower loopers before threading the needles.

Thread Sequence

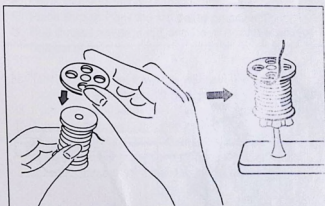
1. Upper Looper (Green)
2. Lower Looper (Blue)
3. Right Needle (Yellow)
4. Left Needle (Red)

extension bar

1. Pull the Extension Bar up as far as it will go.
2. Rotate the Thread Guide Hanger so that the Thread Guides are right above the spool pins.
3. Place the spools or thread cones on spool pins.



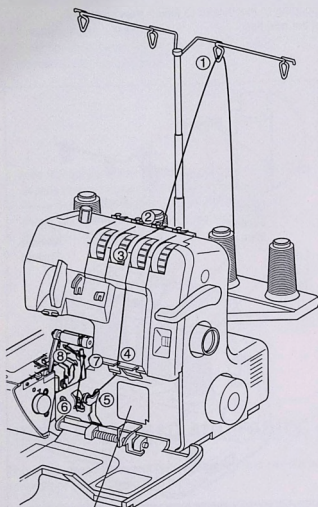
Thread spool nets are useful for synthetic threads which tend to drop off its holder. Cover the thread cones with the thread nets provided with the accessories. Bring thread end to the top of the machine.



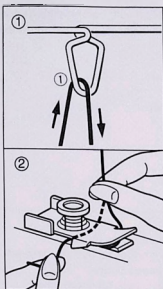
Thread caps are also provided with the accessories. They are used when sewing with regular spools. Insert the stem of cap into the spool hole opposite the end with notch.

threading the upper looper

Open the front cover and thread upper looper thread as illustrated below in steps 1 to 8. Follow thread guides with **green** color markings on machine.

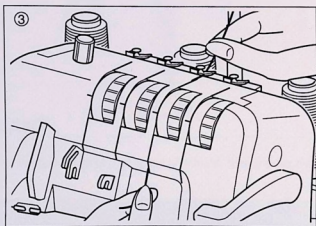


Threading chart



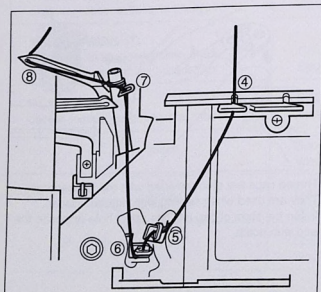
1. Pass thread through top guide from back to front.

2. Bring thread down and pass through thread guide.



3. Bring thread straight down through the slot so that it passes between the tension discs.

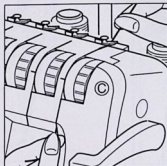
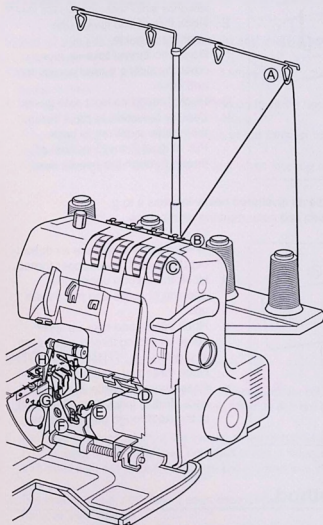
4. Pass thread through the opening.
5. Hook thread from the bottom side.
6. Hook thread from the left side.
7. Pull thread up and hook into guide from right side.
8. Use tweezers to pass thread through the upper looper hole front to back. Pull at least 7 cm (3 inches) of thread through the upper looper.



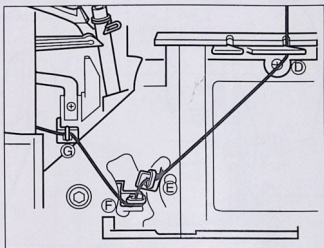
threading the lower looper

Remove the free arm cover and thread lower looper thread as illustrated below in steps A to I. Follow thread guides with blue color markings on machine.

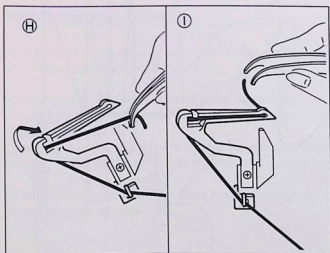
- A. Pass thread through guide from back to front.
- B. Bring thread down and pass through thread guide.



- C. Bring thread straight down along the slot so that the thread passes between the tension disc.

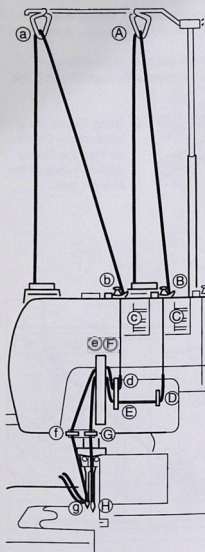


- D. Path thread through the opening.
- E. Hook thread from the bottom side.
- F. Hook thread from the left side.
- G. Pull thread towards left and hook thread from the bottom side.

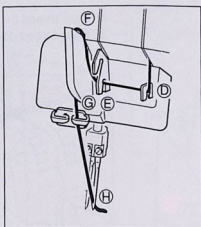


- H. Turn hand wheel towards you until the lower looper is in extreme left side position. Hook thread from the back side.
- I. Turn hand wheel until the lower looper is in extreme right position. Use the tweezers to pass thread through hole front to back. Pull at least 7 cm (3 inches) of thread through lower looper.

threading the right and left needles

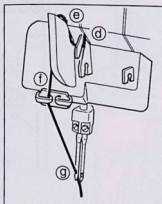


Thread right needle as illustrated below in steps A to H.
Thread guides with yellow color marking on machine).



- A-C. Thread same sequence as threading upper and lower looper thread.
- D. Hook thread into guide and pull it towards left.
- E. Hook thread into lower side opening of guide.
- F. Hook into thread take-up lever cover by sliding thread across top and down.
- G. Hook thread into right side guide.
- H. Use the tweezers to pass through the needle eye front to back. Pull at least 7 cm (3 inches) of thread through the needle eye.

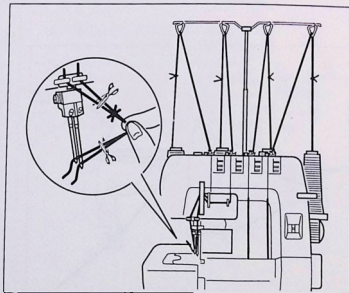
Thread left needle as illustrated below in steps a to g.
Thread guides with red color marking on machine.



- a-c. Thread same sequence as threading upper and lower looper thread.
- d. Hook thread into upper side opening of guide and pull thread up.
- e. Hook into thread take-up lever cover by sliding thread across top and down.
- f. Hook thread into left side guide.
- g. Pass through needle eye front to back. Pull at least 7 cm (3 inches) of thread through the needle eye.

easy thread changing -Tying On method

1. Cut the thread near the spools.
2. Exchange the spool with a new one and tie end to remaining thread making knot as small as possible.
3. Note the numbers on each Thread Tension Dial.
4. Turn Thread Tension Dials to the smallest number.
5. Press Foot Control and run machine until upper and lower thread knot comes through looper hole.
6. Stop needle thread before passing through eye of needle. Pull needle threads near the needle eye and cut thread knots.
7. Pass threads through needle eye manually.
8. Return tension dials to original tension settings.

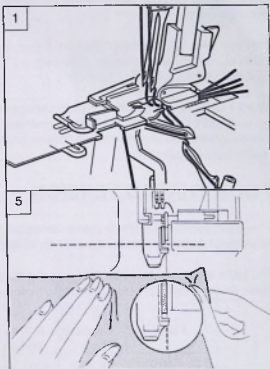


BEFORE STARTING TO SEW

When the machine is plugged in properly and threaded correctly it is ready for sewing. To insure good stitches, make several sewing tests using the same fabric and thread on which you will sew. Make the proper adjustments while test sewing.

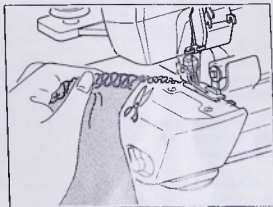
starting to sew

1. Pull all threads under the presser foot and toward the back.
2. Lower the presser foot.
3. Turn hand wheel towards you 2 or 3 times and check the thread chain.
4. Press Foot Control lightly pulling threads towards back and make thread chain about 5 cm (2 inches).
5. Place a scrap of fabric under the toe of the presser foot at the position to be stitched.
6. Hold end of thread with your left hand when starting to sew.



end of seam

1. When the needle reaches the end of seam, chain off by running the machine until the thread chain is 6-7 cm (2-3 inches) long.
2. Stop the machine and cut the thread chain remaining 3-4 cm (1-2 inches) to the machine. Tie small knots in thread ends and treat with dot of seam sealant. Let dry and trim close to knot.
3. For neater finish, pull thread ends back through seam using hook or yarn needle.

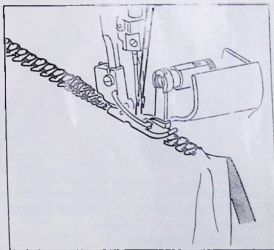


when thread breaks

If the thread breaks while sewing, remove fabric from machine and rethread as indicated below.

- Upper Looper Thread; turn hand wheel towards you until the upper looper is in the lowest position. Pass thread through the looper hole.
- Lower Looper Thread; cut the needle threads near needle hole; rethread the lower looper; rethread the needle/needles.

To begin sewing, place material 3-4 cm (1-2 inches) behind point where thread broke.



OVERLOCK SEWING (2-needle, 4-thread)

Your machine will sew overlock stitches and simultaneously trim the fabric. It is delivered from the factory preset to sew a 4-thread overlock stitch.

This machine can also sew 1-needle, 3-thread overlock stitch by removing one needle. (See page 15 "OVERLOCK SEWING 1-needle, 3-thread".)

The 2-needle, 4-thread stitch offers a stronger seam for some areas of your sewing. It is recommended for most woven fabrics and clothes that will receive harder wear and/or frequent washings.

FOUR THREAD TENSION

The stitch quality depends on proper balance between the four thread tensions. The tensions may require adjustment depending on the type of fabric, heaviness of fabric and size of thread used.

The table below is a guide for adjusting the thread tension.

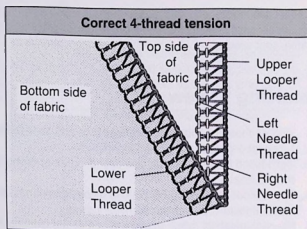
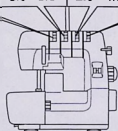
Note: Be sure that the thread is passing between the tension discs.

Fabric	Left Needle Thread	Right Needle Thread	Upper Looper Thread	Lower Looper Thread
Light Weight	1.5 - 3.5	1.0 - 3.0	1.0 - 3.0	1.5 - 3.5
Medium Weight	3.0 - 5.0	3.0 - 5.0	2.0 - 4.0	2.0 - 4.0
Heavy Weight	3.0 - 5.0	3.0 - 5.0	2.0 - 4.0	2.0 - 4.0

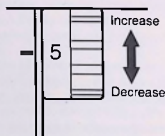
NOTE:

This table is a guide for thread tensions when sewing with #80 to #90 polyester spun threads.

The charts below are illustrations of stitches needing adjustment in the thread tension.



Turning thread tension dial



TO INCREASE, turn tension dial to a higher number.

TO DECREASE, turn tension dial to a lower number.

Left needle thread is too loose. (Clearly visible on the bottom side of fabric.)	Right needle thread is too loose.	Upper looper thread crossed on bottom side of fabric.	Lower looper thread crossed on top side of fabric.
Increase Left Needle Thread Tension and/or Decrease Upper and Lower Looper Thread Tensions.	Increase Right Needle Thread Tension.	Increase Upper Looper Thread Tension and/or Decrease Lower Looper Thread Tension.	Increase Lower Looper Thread Tension and/or Decrease Upper Looper Thread Tension.

SETTING STITCH LENGTH

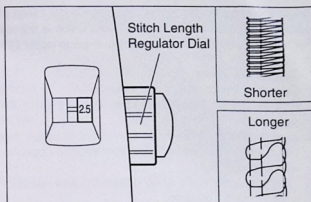
The stitch length can be adjusted between 1 and 4 mm.

- For shortest stitch, turn dial to 1.
- For longest stitch, turn dial to 4.

As a rule, light weight fabrics take a shorter stitches.

Heavy weight fabrics need longer stitches.

Most normal sewing is done with stitch length dial set at 2.5. This produces a medium length stitch which makes a strong seam and is suitable for most fabrics.

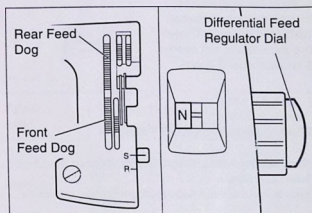


ADJUSTING THE DIFFERENTIAL FEED

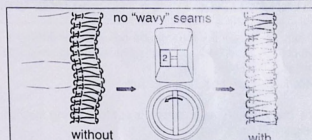
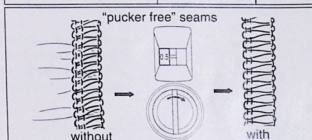
This machine has two feed dogs - a front feed dog and a rear feed dog, which move independently and can be adjusted separately.

This Differential Feed prevents waving in stretch fabrics and insures pucker-free seams in light weight woven fabrics.

The rear feed motion (main feed) is adjusted by turning the stitch length regulator dial. The front feed motion is adjusted by turning the differential feed regulator dial which is located inside the stitch length regulator dial.

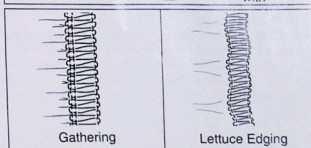


- For normal sewing, set the differential feed regulator dial to "N". Both feed dogs will move together and feed evenly.
- For pucker-free seams in delicate or closely woven fabrics, turn the dial to "0.5". The front feed dog motion will be shorter than the rear feed dog motion. The front feed dog will hold back the fabric enabling the rear feed dog to take it up behind the needle without any puckering.
- When sewing stretch or knit fabrics, turn the dial towards "2". The front feed dog motion will be longer than the rear feed dog motion and in this manner the fabric can be sewn without stretching.



The differential feed can be used for gathering or lettuce edging.

- For gathering, set the dial towards "2".
- For lettuce edging, set the dial towards "0.5".

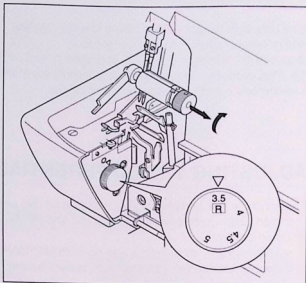
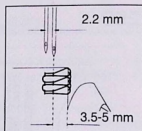


SETTING THE SEAM WIDTH

Overedge seam width can be adjusted from 5.7 mm (right needle 3.5 mm) to 7.2 mm (right needle 5.0 mm) stitch. Normally the machine is set at 5.7 mm which is the width most frequently used. For heavy weight fabrics, set control knob to wider stitch.

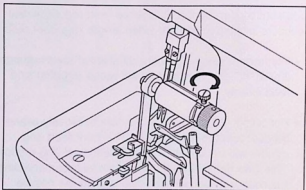
1. Turn power switch off.
2. Open the front cover.
2. Pull the Upper Knife Knob to the right and turn it upward.
3. Turn the Seam Width Knob downward to select wider stitch width. For smaller width turn knob in opposite direction.
4. Turn the Upper Knife Knob downward and release the knife to cutting position.

The numbers marked on the Seam Width Knob are the width to the right needle, and the distance between needles is 2.2 mm. Therefore the width to left needle is an additional 2.2 mm.



SEWING HEAVY WEIGHT FABRICS

When sewing heavy weight fabrics, tighten the Upper Knife Lock Screw. The machine will cut heavy weight fabrics smoothly.

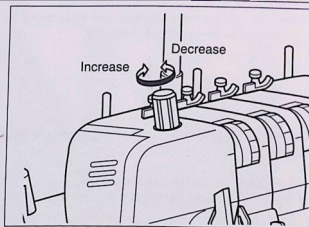


ADJUSTING THE PRESSURE ON FABRIC

The pressure on the foot can be adjusted for different weight fabrics. The fabric should move along smoothly and evenly without slipping. Stitches should be uniform in size.

The pressure on this machine is set for sewing medium weight fabrics.

- For sewing light weight fabrics, decrease the pressure (turn screw to left).
- For heavy weight fabrics, increase the pressure (turn screw to right).



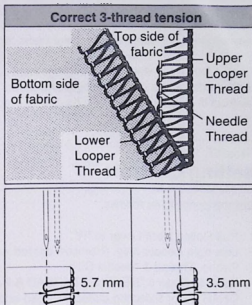
OVERLOCK SEWING (1-needle, 3-thread)

This machine can also sew 1-needle, 3-thread overlock stitching by removing either needle, depending on the seam width you desire. This is the standard overlock stitch and is suitable for most fabrics.

To convert your machine to a wide 3-thread stitch (7.2 mm - 5.7 mm), snip the right needle thread just above the eye of the needle. Remove the thread from the "yellow" color coded thread guides. Remove the right needle and tighten the right needle clamp screw. This stitch width is suitable for sewing heavier fabrics.

To convert your machine to a narrow 3-thread stitch (5 mm - 3.5 mm), snip the left needle thread just above the eye of the needle. Remove the thread from the "red" color coded thread guides. Remove the left needle and tighten the left needle clamp screw. This stitch width is suitable for sewing lightweight to medium weight fabrics.

Both seam widths can be adjusted by turning the seam width knob.



three thread tension

Use the chart to the right as a guide in setting tension.

Note: Be sure that the thread is passing between the tension discs.

The illustrations below are examples of stitches which need adjusting.

Fabric Weight	Needle Thread (Left or Right)	Upper Looper Thread	Lower Looper Thread
Light	(Left) 2.5 - 4.5	1.0 - 3.0	2.0 - 4.0
	(Right) 2.0 - 4.0	1.0 - 3.0	2.0 - 4.0
Medium	(Left) 2.5 - 4.5	1.0 - 3.0	2.0 - 4.0
	(Right) 3.5 - 5.5	3.0 - 5.0	2.0 - 4.0
Heavy	(Left) 2.5 - 4.5	1.0 - 3.0	2.0 - 4.0
	(Right) 3.5 - 5.5	3.0 - 5.0	2.0 - 4.0

NOTE:

This table is a guide for thread tensions when sewing with #80 to #90 polyester spun threads.



Needle thread is too loose. (Clearly visible on the bottom side of fabric.)	Upper looper thread crossed on bottom side of fabric.	Lower looper thread crossed on top side of fabric.
Increase Needle Thread Tension and/or Decrease Upper and Lower Looper Thread Tension.	Increase Upper Looper Thread Tension and/or Decrease Lower Looper Thread Tension.	Increase Lower Looper Thread Tension and/or Decrease Upper Looper Thread Tension.

NARROW AND ROLLED HEMMING

Pulling the Rolled Hem Lever to "R" and using right needle only, the machine trims fabric, folds back the edge and sews a narrow hem (overedge). The width of the narrow overedge is 1.5 mm (about 1/16") and is used for overedging light and medium weight fabrics.

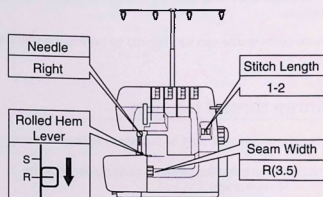
Two variations of the rolled overedge hem can be sewn with this machine by changing the thread tension. Both methods are used with light and medium weight fabrics.

Method B gives a softer finish by pulling the interlocking threads to the wrong side.

setting controls

Set the controls as follows.

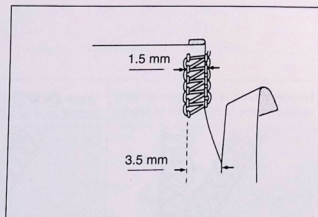
1. Pull Rolled Hem Lever to "R".
2. Use right needle only. (Remove the left needle.)
Refer to Page 6 "NEEDLE, THREAD & FABRIC CHART", for selecting suitable thread and needle sizes for sewing on light and medium weight fabrics.
3. Stitch Length Regulator
Set stitch length between 1 and 2 mm.
4. Seam width knob
The seam width for sewing rolled overedge is normally 1.5 mm (about 1/16").
Turn Seam Width Knob to "R" (3.5). (See page 14).



sewing

Pull the excess threads gently toward the back and begin sewing.

Although the stitch width is set at 1.5 mm, you will actually need 3.5 mm (about 1/8") to provide enough fabric for the fold back.

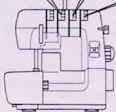


thread tension -Method A

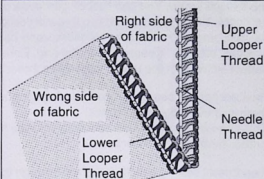
Use the chart below as a guide in setting tension. The tension adjustments for Method A are the same as 1-needle, 3-thread overlock. See page 15 if adjustments are needed.

Fabric	Needle Thread (Right)	Upper Looper Thread	Lower Looper Thread
Light & Medium	3.0 - 5.0	2.5 - 4.5	2.0 - 4.0

NOTE:
This table is a guide for thread tensions when sewing with #80 to #90 polyester spun threads.



Correct 3-thread narrow overedge tension



ROLLED OVEREDGE -Method B

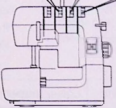
The upper looper thread encases the edge fabric in Method B rolled overedge hem creating a softer finish. Settings and sewing of Method B rolled overedge hem are the same as the Method A rolled overedge except for thread tension. (See below)

thread tension -Method B

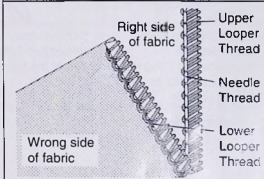
Regulate the tension dials using guide below.

Fabric	Needle Thread (Right)	Upper Looper Thread	Lower Looper Thread
Light & Medium	3.0 - 5.0	2.5 - 4.5	3.0 - 5.0

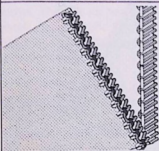
NOTE:
This table is a guide for thread tensions when sewing with #80 to #90 polyester spun threads.



Correct 3-thread rolled hem tension

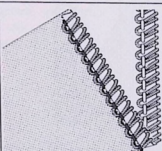


Needle thread is too loose.



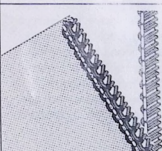
Increase Needle Thread Tension and/or Decrease Upper Thread Tension.

Upper looper thread is too loose.



Increase Upper Looper Thread Tension.

Lower looper thread is too loose.



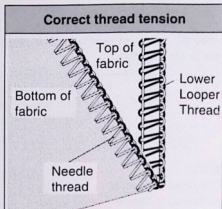
Increase Lower Looper Thread Tension and/or Decrease Upper Looper Thread Tension.

TWO THREAD SERGING

Two thread serging provides a decorative, yet functional seam known as the flatlock seam. You can flatlock garments ranging from lingerie to fake fur coats. When sewing with two threads you can achieve a flat, bulk-free seam. Using it to seam fake-fur fabrics and hand knit fabrics you will find that the "stitches" disappear into the nap. Enhance the appearance of flatlock stitch with the use of decorative threads through the looper.

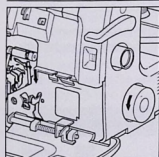
Besides flatlock seaming, two thread serging also provides a sturdy means of overedging all fabrics. This can be combined with speciality threads for decorative edges on ruffles, hemlines, and borders.

Two thread sewing is accomplished through the elimination of two threads - the upper looper and either needle. NOTE: Use the LEFT needle for a wide flatlock stitch; use the RIGHT needle threads through the looper.

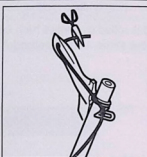


Needle and lower looper threads are crossing on the edge of fabric.

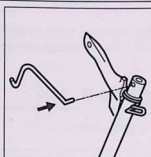
to convert from 3-thread to 2-thread sewing



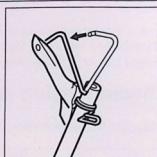
1. Open the front cover and rotate the handwheel to bring the upper looper to its lowest position.



2. Cut the upper looper thread just behind the eye of the upper looper.



3. Insert the subsidiary looper into the hole at the top of the upper looper shaft.



4. Push on the subsidiary looper with your finger and rotate it to the left until the tip of the subsidiary looper is securely positioned into the eye of the upper looper.

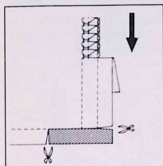
thread tension

When you are doing two thread serging for the first time use a medium weight fabric to sew a test sample for determining the correct tension setting. Begin by adjusting the needle tension to "1" and the lower looper tension to "4". Sew a sample. If the threads are not balanced make necessary adjustments according to the illustrations.

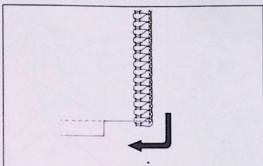
Needle thread laps round over the top of fabric.	Lower looper thread laps round over the bottom of fabric.
Increase Needle Thread Tension and/or Decrease Lower Looper Thread Tension.	Increase Lower Looper Thread Tension and/or Decrease Needle Thread Tension.

TURNING CORNERS

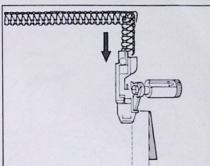
outside corner



1. Cut the corner about 5-6 cm (2-3 inches) along the cutting line.

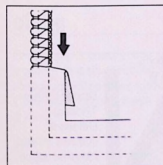


2. Sew to the end of fabric and stop machine.
3. Raise needle and presser foot.
4. Pull fabric slightly towards the back and pull out tangled thread from Throat plate.

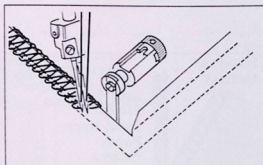


5. Turn fabric and position the fabric by lining up the cut line and knife. Lower the Presser Foot.
6. Resume sewing.

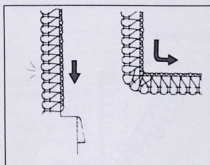
inside angle and slits



1. Sew desired seam line until approach the corner.



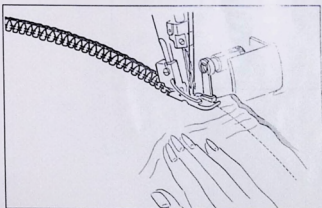
2. When you approach the corner, slow down and allow the knife to make one more small notch into the corner.



3. Straighten the fabric out in front of the knife and stitch completing the edge.

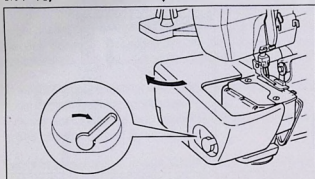
outside curves

The machine can continue sewing when rounding a curve. There is no need to stop the machine and pivot. Push excess fabric toward the presser foot giving the machine more fabric and continue sewing as if sewing a straight seam.

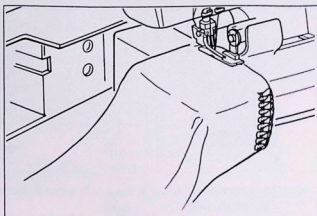


FREE ARM SEWING

This machine will convert to free arm sewing by simply opening the Extension Table. It is used for sewing sleeves, trousers or similar places that are difficult to sew on a flat bed machine.



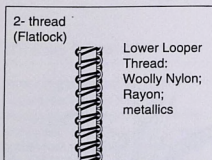
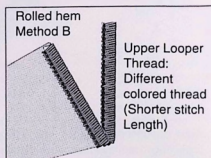
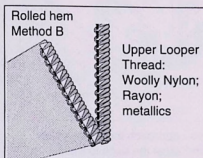
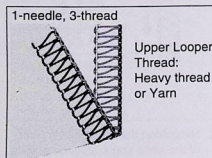
Turn lever located on left side of extension table to the front of machine and swing table out.



DECORATIVE OVERLOCK

When you change the Looper Thread to heavier thread or yarn, you can produce decorative overlock stitching. Try using various types of thread to create attractive combinations experiment with different tension adjustments to produce a variety of decorative effects.

examples;



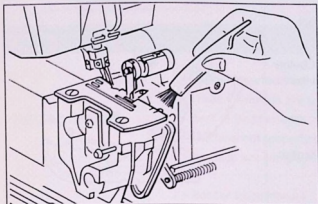
CLEANING AND MAINTENANCE

cleaning

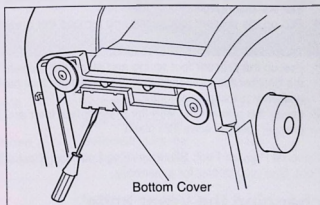
Fabric, thread scraps and dust may accumulate around moving parts and effect the functioning of machine.

Unplug cord and clean machine with the brush provided with the accessories.

Remove the presser foot. (See next page)
Brush around the fabric feed dog and knives.



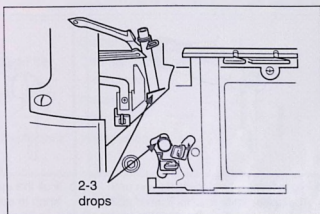
Open bottom cover and remove scraps and dust.



oiling

Critical parts used in this machine are made of special material that does not require oiling. Only the parts indicated with arrows shown below need oiling.

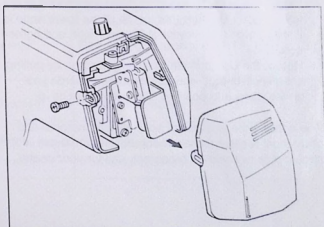
Depending on use these should be oiled once or twice a month.



changing the sewing light

If the sewing light does not light when power switch is turned on, replace the bulb.

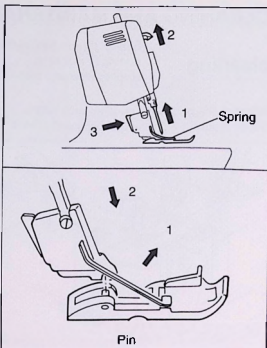
1. Unplug sewing machine from the wall receptacle.
2. Remove the Light Cover by removing the screw.
3. Remove the bulb.
4. Replace with new bulb of same size wattage and size.
5. Replace the Light Cover.



removing the presser foot

The presser foot can be removed easily by pulling the presser foot releasing lever.

1. Turn the hand wheel towards you until the needle is at its highest point.
2. Lift up the presser foot by raising the presser foot lifter.
3. Pull the presser foot releasing lever towards you, and presser foot will disengage.
4. Pull up the presser foot spring and remove the presser foot.



REPLACING THE PRESSER FOOT

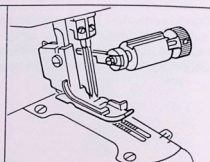
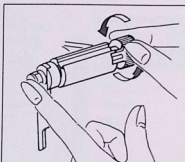
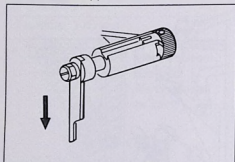
1. Pull up the presser foot spring and place the presser foot below the presser foot holder so that the pin on the foot fits into the hollow of presser foot holder.
2. Lower the presser bar with the presser foot lifter and the presser foot will snap into place.

Optional Presser Feet: Blindhemming Foot and Elastic Application Foot. See your dealer for availability.

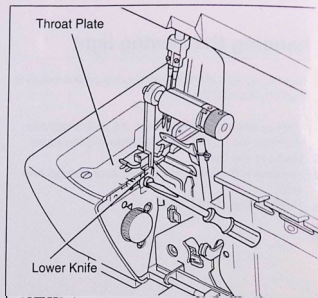
changing the lower knife

Exchange the Lower Knife as shown below when it becomes dull. An extra knife is provided with the accessories.

1. Unplug the machine.
2. Open the front cover.
3. Raise the upper knife as illustrated below.



- a. Turn hand wheel towards you until the upper knife is at its lowest point.
 - b. Pull the upper knife knob to the right as far as it will go and turn knob in opposite direction until it clicks into position.
4. Remove the Lower Knife Screw and take out the knife.
 5. Install new knife by inserting it into the groove of the knife holder. Be sure that the tip of the lower knife is lined up with the surface of Throat Plate, and tighten screw.
 6. Return the Upper Knife to cutting position by pulling knife knob to right and turning knob towards you until it clicks into position. Close the front cover.



The upper knife is made of special hard material and should not require replacement under normal use. If it should chip or need replacement, call for your dealer.

BEFORE YOU CALL FOR SERVICE

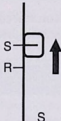
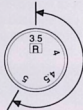
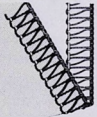
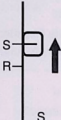
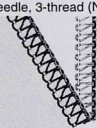
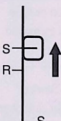
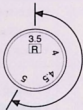
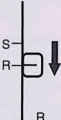
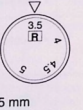
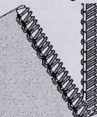
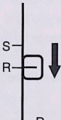
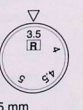
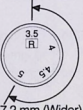
Your new overlock sewing machine was carefully inspected and tested at the factory and was in perfect working order when shipped.

Under normal conditions, if you carefully follow instructions for threading, operating and maintenance, your machine will give you years of trouble-free service.

Occasional difficulties are usually caused by a condition that can be easily remedied with a minor adjustment. Some possible problems, their causes and corrections are given here.

PROBLEM	CAUSE	CORRECTION	REF. PAGE
THREAD BREAKS	• Needle inserted incorrectly • Thread tensions are too tight • Bent or blunt needle • Machine not properly threaded • Threads are caught in incorrect guide	Reset needle Loosen thread tensions Insert new needle Rethread machine Rethread machine	6 12, 15, 17, 18 6 7-10 7-10
MACHINE SKIPS STITCHES	• Bent or blunt needle • Needle inserted incorrectly • Pressure on foot insufficient • Incorrect needle size or type • Machine incorrectly threaded • Tensions set too high	Insert new needle Reset needle Increase pressure Insert correct needle Rethread machine Loosen thread tensions	6 6 14 6 7-10 12, 15, 17, 18
NEEDLE BREAKS	• Pulling fabric while sewing • Incorrect size needle or thread for fabric being sewn • Needle inserted incorrectly	Do not pull fabric Choose correct needle and thread Reset needle	11 6 6
MACHINE DOES NOT FEED PROPERLY	• Pressure on presser foot insufficient	Increase pressure	14
FABRIC PUCKERS	• Lower knife is dull • Stitch length not suitable for fabric • Differential feed not suitable • Thread tensions are too tight • Seam width not suitable for fabric	Change lower knife Readjust stitch length Readjust differential feed Loosen thread tensions Readjust seam width	22 13 13 12, 15, 17, 18 14
LOOSE STITCHES OR LOOPS FORMED	• Tensions not adjusted properly	Check thread tensions	12, 15, 17, 18
MACHINE RUNS HEAVILY	• Dirt or lint in stitching mechanism	Clean the machine	21
MACHINE WILL NOT SEW	• Cord not plugged into electrical outlet • Light and power switch not on	Check plug Turn on the switch	4 4

STITCH SELECTION CHART

STITCH (Correct thread tension)	NEEDLE	ROLLED HEM LEVER	SEAM WIDTH	STITCH LENGTH
2-needle, 4-thread 	Both		 5.7-7.2 mm	1-4 mm Refer to Page 12 for Tension Adjustment.
1-needle, 3-thread (Wider) 	Left		 5.7-7.2 mm	1-4 mm Refer to Page 15 for Tension Adjustment.
1-needle, 3-thread (Narrower) 	Right		 3.5-5 mm	1-4 mm Refer to Page 15 for Tension Adjustment.
Narrow Hemming-Method A 	Right		 1.5 mm (Actually 3.5 mm)	1-2 mm Refer to Page 17 for Tension Adjustment.
Narrow Hemming-Method B 	Right		 1.5 mm (Actually 3.5 mm)	1-2 mm Refer to Page 17 for Tension Adjustment.
Two thread (Wider or Narrower) 	Remove Upper Looper Thread and attach Subsidiary Looper.		 5.7-7.2 mm (Wider) 3.5-5 mm (Narrower)	1-4 mm Refer to Page 18 for Tension Adjustment.

